DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-007676
Date Inspected: 13-Jul-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Clackamas, OR

CWI Name: Mike Gregson, Jose Salazar
Inspected CWI report: ☐ Yes ☑ No ☐ N/A
Electrode to specification: ☑ Yes ☐ No ☐ N/A
Qualified Welders: ☑ Yes ☐ No ☐ N/A
Approved Drawings: ☑ Yes ☐ No ☐ N/A

CWI Present: ☑ Yes ☐ No
Rod Oven in Use: ☐ Yes ☐ No ☑ N/A
Weld Procedures Followed: ☑ Yes ☐ No ☐ N/A
Verified Joint Fit-up: ☑ Yes ☐ No ☐ N/A
Approved WPS: ☑ Yes ☐ No ☐ N/A
Delayed / Cancelled: ☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Hinge K Pipe Beams

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

OIW Fabrication Shop-Bay 3
Hinge-K Pipe Beam Assembly 102A-1: 7/13/09
a111-1 Forging to a110-1 Base Plate
QA Inspector noticed that all stiffener plates were tack welded and this assembly 102A-1 was sitting idle, pending transfer to the welding positioner for submerged arc welding on these PJP and fillet welds. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-2: 7/13/09
a111-2 Forging to a110-2 Base Plate
QA Inspector spoke with lead QC Inspector Mike Gregson and Mr. Gregson explained that the weld repair (WRR 2244-20), a111-2 forging to a110-2 base plate, designated as weld joint #W2-12/W2-13, had been previously completed on 7/9/09 and 100% ultrasonic weld inspection had been performed by QC Inspector Rob Walters on 7/13/09, after the required 72hrs. cooling time period, per AWS D1.5. QA Inspector spoke with QC Inspector Rob Walters and Mr. Walters explained that the ultrasonic weld inspection was performed utilizing a 60 and 70 degree

transducer angle from face “A” (exterior) and a 60 degree transducer angle from face “B” (interior). Mr. Walters also explained that no rejectable/recordable indications were found and the applicable ultrasonic weld testing report was in-process of being completed and QA Inspector would be provided with a copy of the completed report. QA Inspector performed 100% ultrasonic weld inspection on this weld repair (WRR 2244-20), a111-2 forging to a110 base plate, designated as weld joint #W2-12/W2-13, utilizing a 60 and 70 degree transducer angle from face “A” (exterior) and a 60 degree transducer angle from face “B” (interior) and found no rejectable/recordable indications. QA Inspector notified lead QC Inspector Mike Gregson of the ultrasonic testing results and completed the applicable ultrasonic testing report (TL6027), on this date. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-3: 7/13/09
a111-3 Forging to a110-3 Base Plate
QA Inspector noticed this assembly 102A-3 was sitting idle, with a pending non-critical weld repair.

Hinge-K Pipe Beam Assembly 102A-4: 7/13/09
a111-4 Forging to a110-4 Base Plate
QA Inspector noticed this assembly 102A-4 had been previously placed in position and welder #T6, Mr. Craig Jacobson, was in process of performing submerged arc welding on the multi pass 10mm fillet weld on the c106 stiffener plate to b106 stiffener plate, designated as weld joint # W1-17, in the flat position. QA verified Mr. Jacobson was currently qualified for this process/position and noted that Mr. Jacobson was utilizing OIW approved welding procedure specification (WPS 4020). QA Inspector randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit and noticed QC Inspector Jose Salazar was present to monitor in-process welding parameters (amps/volts). QA Inspector noted that Mr. Walters had recorded in-process welding parameters of 600 amps and 32 volts, which appears to be in compliance with the applicable welding procedure specification.

Hinge-K Pipe Beam Fuse Assembly 120A-7: 7/13/09
a124-5 Half Fuse to a124-15 Half Fuse
QA Inspector randomly witnessed welder #T23, Mr. John Tellone, perform submerged arc welding (SAW) on CJP (AWS D1.5 B-U3c-S), half fuse pipe assembly, (piece mark identified as a124-5), to half fuse pipe assembly, (piece mark identified as a124-15), in the flat position (1G). QA Inspector spoke with QC Inspector Mike Gregson and Mr. Gregson explained that the OIW welder #T23, was performing submerged arc welding in accordance with the OIW approved welding procedure specification (WPS 4020).
QA Inspector noticed QC Inspector’s Mike Gregson and Rob Walters were present and monitoring in-process welding parameters (amps/volts) and pre-heat temperatures, verifying Mr. John Tellone was in compliance with the applicable welding procedure specification (WPS 4020).
QA Inspector verified Mr. John Tellone was currently qualified for this welding process/position and performed a random pre-heat check and recorded temperatures of approximately 350 degrees Fahrenheit. QA Inspector also recorded random, in-process welding parameters (amps/volts) of 680 amps and 34 volts, which is in compliance with the OIW welding procedure specification (WPS 4020).

Hinge-K Pipe Beam Sub-Assembly a124-8: 7/13/09
a125 & b125 Ring Stiffeners to a124-8 Half Fuse
QA Inspector noticed the submerged arc welding was complete on the a125 & b125 ring stiffeners and this sub-assembly a124-8 and was sitting idle.

Hinge-K Pipe Beam Sub-Assembly a124-16: 7/13/09
a125 & b125 Ring Stiffeners to a124-16 Half Fuse
QA Inspector noticed the submerged arc welding was complete on the a125 & b125 ring stiffeners and this sub-assembly a124-16, was sitting idle.

OIW Fabrication Shop-Bay 6 (ESW Overlay Process)
Hinge-K Pipe Beam Fuse Assembly 120A-1: 7/13/09
a124-6 Half Fuse to a124-7 Half Fuse
QA Inspector noticed this fuse assembly 120A-1 was sitting idle, pending the ESW overlay process.

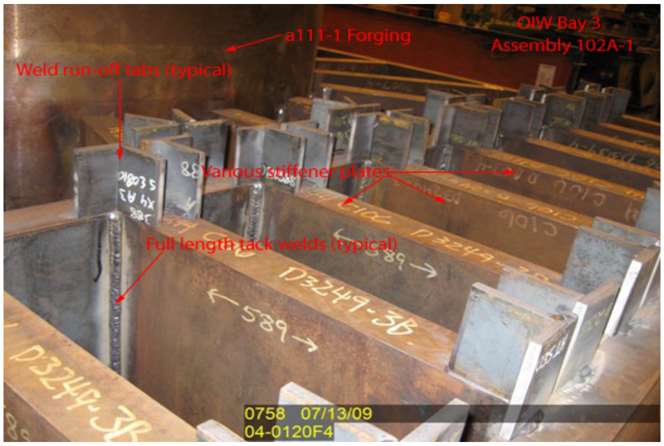
Hinge-K Pipe Beam Fuse Assembly 120A-2: 7/13/09
a124-3 Half Fuse to a124-11 Half Fuse
QA Inspector noticed this fuse assembly 120A-2 was sitting idle, pending 100% final magnetic particle testing on the exterior machined surface by qualified OIW QC personnel. QA Inspector spoke with QC Inspector Mike Gregson and Mr. Gregson explained that the exterior magnetic particle testing would be performed as soon as OIW production personnel place this assembly on the automated rollers. Mr. Gregson also explained that once the magnetic particle testing was complete, QA Inspector would be notified and QA Inspector will then perform approximately 10% magnetic particle testing, on the exterior machined surface, of this fuse assembly 120A-2.

Hinge-K Pipe Beam Fuse Assembly 120A-3: 7/13/09
a124-12 Half Fuse to a124-10 Half Fuse
QA Inspector noticed that the stainless steel overlay welding (ESW) was complete on this fuse assembly 120A-3 and was sitting idle, pending transport to AG Machining for final machining.

Hinge-K Pipe Beam Fuse Assembly 120A-4: 7/13/09
a124-13 Half Fuse to a124-4 Half Fuse
QA Inspector noticed that the stainless steel overlay welding (ESW) was complete on this fuse assembly 120A-4 and was sitting idle, pending transport to AG Machining for final machining.

Hinge-K Pipe Beam Fuse Assembly 120A-5: 7/13/09
a124-2 Half Fuse to a124-14 Half Fuse
QA Inspector noticed this fuse assembly 120A-5 was sitting idle, pending the ESW overlay process.

Hinge-K Pipe Beam Fuse Assembly 120A-6: 7/13/09
a124-1 Half Fuse to a124-9 Half Fuse
QA Inspector noticed this fuse assembly 120A-6 was sitting idle, pending the ESW overlay process.



Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Vance,Sean	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer